DOCUMENT RESUME

ED 046 124 EA 003 250

AUTHOR Keutzer, Carolin; And Others
TITLE Laboratory Training in a New Social System: Evaluation of a Two-Week Program for High School Personnel.
PUB DATE 18 Jun 69
NOTE 52p.

EDRS PRICE EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS *Communication (Thought Transfer), Conflict Resolution, Decision Making Skills, Experiments, Group Norms, Innovation, *Interpersonal Relationship, *Laboratory Training, Organizational Climate, Problem Solving, *Program Effectiveness, *Secondary School Teachers, Sensitivity Training, Social Systems

ABSTRACT

A 2-week laboratory learning experience was held for a group of 35 strangers who were to comprise the entire staff of a new high school. The general objective was to promote an effective social system characterized by (1) a high degree of proficiency in communication, decisionmaking, problem-solving, and conflict management; and (2) an atmosphere of interpersonal trust and freedom for innovation and experimentation. The effectiveness of the laboratory experience was assessed by (1) a staff questionnaire that measured change in anticipated behavior on several dimensions, (2) a student questionnaire that assessed changes in the students' perception of school norms, and (3) various other outcome criteria such as observations from regular consultation visits to the new school and the turnover rate in staff after the first year. These measures indicate that there were significant and desirable changes, both over time and in comparison to similar measures obtained from a control school, and that the changes could be attributed in part to the training interventions. (Author)

ED 046124

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

LABORATORY TRAINING IN A NEW SOCIAL SYSTEM: EVALUATION OF A TWO-WEEK PROGRAM FOR HIGH SCHOOL PERSONNEL

Carolin Keutzer
Fred R. Fosmire
Richard Diller
Mary Dell Smith

University of Oregon
June 18, 1969

Summary. A two-week "laboratory learning" experience was held for a group of 35 strangers who were to comprise the entire staff of a new high school. The general objective of the lab was to promote an effective social system characterized by a high degree of proficiency in basic instrumental skills (communication, decision-making, problem-solving, conflict management) and by an atmosphere of interpersonal "openness," trust, and freedom for innovation and experimentation. The first week was primarily a "personal growth" lab, while the second week held to more of an "organizational development" format.

The effectiveness of the laboratory experience was assessed by several independent means: (1) a specially-devised Situation Prediction Questionnaire, which yielded a measure of change in anticipated behavior on several target dimensions (e.g., risk-taking, functional flexibility, and openness of the staff); (2) an Environmental Description Questionnaire, which assessed changes in the students' perception of school norms; and (3) various other outcome criteria such as observations from regular consultation visits to the new school and turn-over rate in staff after the first year.

These measures indicate that there were significant and desirable changes (both over time and in comparison to similar measures obtained from a control school), and that the changes could be attributed in part to the training interventions.

Purpose of the Study

The primary purpose of assessing the effects of the laboratory training was to see if the heavy expenditures (in terms of time, money, energy and inconvenience) could be recovered with interest. As the trainers in the intervention, we were seeking reassurance that the experientailly-gratifying procedures and the theoretically sound learning-principles could yield a pay-off in terms of overt behavior, social climate, and system-effectiveness. Toward that end, we used a number of different "internal" and "external" criteria (following the distinction of Campbell & Dunnette, 1968) to see if we had, in fact, "made a difference."

EA 003 250

In the following presentation, we were especially heedful of the legitimate complaint of Campbell and Dunnette (1968) that most "descriptions of training programs are so incomplete as to preclude any careful assessment of the role played by (these) other methods." Accordingly, this report begins with (1) summary sketches of the experimental and control schools involved, (2) a history of the relationship between the trainers and the school district, (3) a recounting of the events prior to the summer experience, and (4) detailed accounts of the procedures used during both the summer intervention and the continuing consultation sessions during the school year.

Nature of the Social Systems to be Studied

The Experimental School. Experimental High School (EHS) opened for the first time in September of 1968. EHS is in a school district in the suburbs of Portland (Oregon) which serves a population of above-average affluence, and its students are predominantly from white, middle-class homes. The school had a total certified staff of 35, comprised of one principal, two vice-principals, and 32 classroom teachers. During this first year of operation there were 600 students in grades ten and eleven (sophomores and juniors); there were no seniors (grade twelve). The prevailing orientation and philosophy of EHS's administrators will be described below as part of the history of the intervention.

The Control School. Control High School (CHS) also opened its doors for the first time in September of 1968. Like EHS, it is located in a Portland suburb and serves mainly white, middle-class students. During the first year of classes, there were 33 certified members on the staff, including a principal and two vice-principals. There were 560 students in grades nine, ten, and eleven. Like EHS, there was no grade twelve this first year.

The general philosophy of CHS was described by one of the vice-principals as reflecting the temper of the community. A tone of conservatism prescribed somewhat stricter rules of dress and deportment than some students would have preferred; and the term "discipline" is commonly heard when the administrators

discuss their roles. As the vice-principal summarized the situation: students are given as much freedom as they can handle; those who cannot handle it are restricted.

Entry into the System

As frequently seems to be the case, this endeavor of training and research was built on the foundation of a prior experience. Two of the writers had been trainers in a sensitivity lab for selected teachers in this school district. At a meeting with the total administrative staff of the district, the objectives and apparent outcomes of that lab were reviewed. Three weeks later, the senior consultant (Fosmire) received a call from one of the administrators present during that meeting--the "principal-elect" of the experimental school--asking Fosmire if he would conduct some training activities for the staff of the new school.

Several meetings later (one of which was attended by the new vice-principal of EHS also), the principal had articulately described the physical characteristics of the new school and his criteria for selecting the staff, his general objectives for the training program, and his personal goals for the new school. Fortunately, but not by chance, the principal's philosophy of administration was beautifully consonant with the goals of laboratory-learning: an emphasis on participative decision-making, internal (feedback) control from within the system, and a permissive, "open" style of relating to staff members.

The principal's objectives for the workshop were equally congruent with the consultant's values: to establish norms for open communication; to build productive and rewarding interpersonal relationships; to develop satisfying procedures of problem-solving and decision-making which yield high-quality decisions and solutions; to establish a high degree of role clarity; to encourage the staff to value students as individuals and to assume responsibility for "guiding" as well as "teaching" them; and to involve the total staff in curriculum-development and appraisal.

With fundamental agreement on the goals of the training program, the consultant then investigated the more prosaic details of the summer lab: Who would participate? How would they be selected? Would participation be voluntary or required? Would they be paid? Would they receive academic credit for the experience? Where and when would the workshop be held? Would it be a residential or a "day-school" lab? Would there be evening meetings? What about meals and coffee breaks?

It was decided that all of the professional staff (excluding civil-service employees but including administrative persons) would be required (as stipulated in their job-offers) to participate in a two-week summer workshop held on a nine-to-five basis in the local area. The participants would be paid to compensate them for time that might have been spent in more financially lucrative ways.

Both the consultant and the principal wanted a continuing consultation relationship, and there was a tentative agreement for the consultant to make from five to nine visits to EHS during the school year following the workshop--the first year of the school's operation. Further, the consultant agreed to take special responsibility for the two days set aside (by contract between the district and the teachers) for in-service training.

The nature, scope and implications of an appropriate research design for program-evaluation was explored and some general understanding reached as to the requisite cooperation of staff and students of EHS. When a contract was finally negotiated between the principal and consultant, then, there was apparent agreement with respect to expectations and goals. From that point on, monthly conversations and meetings refined the design and filled in the details. The basic training-staff was identified approximately eight months before the workshop was scheduled so planning continued at a leisurely though steady pace throughout the months prior to the summer lab.

Pre-workshop Meeting of Participants

In the spring, the senior consultant/trainer spent an evening with all of

the new EHS staff-members who had been recruited at the time (approximately twenty persons). While discussing some of his values, concerns, and tentative plans, he invited the prospective participants to share their own fears and apprehensions, expectations, and learning-objectives for the workshop.

The Summer Laboratory Experience

First Week: Focus on Skill-building and Personal Growth

The morning of the first day of the lab was begun, quite traditionally, with the introduction of the trainers and the distribution of name tags among the 35 participants. While assembled in a large room and before proceeding further, the participants were asked to fill out the "Situation Prediction Questionnaire," a paper-and-pencil instrument designed to assess the probability that the test-taker would respond in any of several alternative ways in a given situation.

The first general session, an introduction to methods of improving communication skills, was begun by having the participants read a two-page exposition entitled "Helping Others Understand You as a Person" (Wallen, 1967). This paper presents some of the reasons for reporting directly one's reactions to another's behavior (in selected situations), and distinguishes among (1) the direct reporting or description of feelings, (2) the indirect expression of feelings, and (3) statements of opinion or fact. After allowing time for discussion and clarification of ideas presented therein, participants were asked to complete individually an accompanying exercise (F-1; Wallen, 1967) which consists of 26 statements that must be categorized as description ("D"), expression ("E"), or opinion / fact ("O"). Then the task was treated as a discussion-exercise for the total group. As differences in interpretation were clarified, the group-members began to acquire common conceptual and linguistic categories which could be used throughout the lab for referring to interpersonal-feedback issues (i.e., a "metalanguage" about feedback).

As a conclusion to the first general session, the four broad "ground rules"

for procedure and interaction in the Inquiry Groups were presented orally. These guidelines and their accompanying rationale are presented briefly below:

(1) That anything which occurs within the group session be a legitimate object for observation and analysis.

Since it is the experiences of the participants in situ which furnish the basic data for the learning-process, units of behavior and behavior-consequences in group-functioning must be accurately observed. This included the behavior of any one member as well as any interaction among members on either a verbal or a nonverbal level.

(2) That the participants focus attention on the shared, direct, immediate experiences of the group.

This "here-and-now" orientation was used to discourage the examination of unique past experiences, the discussion of remote and impersonal topics, and the speculation as to why a person does something--his motives, intentions or historical antecedents.

(3) That the group adopt an experimental attitude toward behavior change.

This proviso allowed that there be a spirit of trial-and-error learning sans the usual social sanctions against failure. It was an attempt to provide persons with the freedom and safety to try out new ways of approaching and solving problems and alternative ways of acting and reacting to one another.

(4) That the members endeavor to provide and be receptive to social feedback.

It is, of course, almost axiomatic that in learning about the effects of his customary or experimental behavior on other people, the learner needs to receive some clear and immediate reports from others. This "ground rule," then, was the explicit encouragement of behaviors needed in any very efficient communications system; viz., a liberal exchange of information about the consequences of behavior, an understanding of the factors which account for the withholding or distortion of interpersonal information, the seeking of consensual validation of perceptions, and the general development of an effective and self-sustaining feedback mechanism.

The participants were divided into two Inquiry Groups by counting off ("A," "B") within departmental groupings (science, administration, physical education, etc.). Thus, in an effort to insure a representative sampling (or micro-staff) within each Inquiry Group and also to forestall premature alliance-consolidation, the only criterion for selection into the two I-Groups was departmental affiliation. Through some mysterious slippage not yet identified, it turned out that the groups were not equal in size; Group A had 19 members while Group B had 16 members. During the remainder of the week, each day provided activities which took place, alternately, within these stable I-Groups and within the total group assemblage.

Inquiry Groups. A brief discussion of the procedures, goals, and processes within the I-Groups, which met from four to six hours a day, might be helpful. Essentially each group began as a structureless, leaderless, agenda-free group of strangers. Though interactional norms had yet to be developed, other norms--experimentation, legitimacy of feedback, a "here-and-now" orientation, etc.--had been partially established by the prior explication of "ground rules."

Congruent with most other reports of human-relations training, the implicit goal of the I-Groups was to help individuals interact with one another in a more productive, less defensive manner, and to be aware of the dynamics underlying such interactions. Though in fact these groups were in a "natural-group setting" (following the distinctions set forth by Tuckman, 1965), they did not exist during this first week to perform "some social or professional function." Indeed adherence to the ground rules precluded the possibility of working on anticipated "real-life" problems in more than an indirect way. In the ever-evolving task of goal-setting, members of both groups seemed to accept the challenge of working together in order to more critically assess interpersonal impact and to discover more effective ways of interacting.

Allowing for considerable variation between groups, it could be said that both I-Groups followed, roughly, the developmental sequence, outlined by Tuckman

(1965), of "forming" (characterized by orientation, testing, and dependence), "storming" (conflict and polarization around interpersonal issues), and "norming" (wherein resistance is somewhat overcome and "ingroup" feeling and cohesiveness develop, new standards evolve, and new roles are adopted). Tuckman's fourth stage, "performing," was not reached in this first week.

Discussing the I-Groups at a less general level, it should be noted that each was begun in essentially the same manner. After introducing the "Name Game" (in which each member systematically states his own name and the names of all those in the circle who have previously introduced themselves--until finally the last person to speak has introduced himself and recited the names of all the other members) and suggesting that the group might want to adopt some agreements (e.g., confidentiality, directness, and a means of assessing consensus), the trainer explicitly defaulted as group "leader." Since each Inquiry Group had its own history, it would be impossible, after that point, to detail any specific process which would simultaneously and validly describe both groups. (Direct testimony to the last point was the fact that Group A dismissed, after ten minutes, the necessity of formulating any explicit group-agreements, while Group B spent the next two-and-a-half hours on this first attempt at decision-making.)

There were, however, two procedures which the I-Groups shared in common: (1) the use of the Group Expectation Survey, and (2) a feedback sociometric. Each will be described briefly below.

Group Expectation Survey. This survey provides easily understood data about the communications-norms of the group (Wallen, 1966). To obtain these norms each member is asked to indicate anonymously (a) what proportion of the group is perceived as interested in knowing his reactions to six behavioral situations ("attributed receptivity"), (b) what proportion of the group is expected to report candid reactions to his behavior in the same six situations ("attributed candor"), (c) to what proportion of the group will he report his

own reactions ("intended candor"), and (d) from what proportion of the group is he interested in knowing personal reactions ("reported receptivity"). The six behavioral situations are listed below:

When he (you) do(es) not understand something you (he) said.

When he (you) like(s) something you (he) said or did.

When he (you) disagree(s) with something you (he) said.

When he (you) think(s) you (he) have changed the subject or beoome irrelevant.

When he (you) feel(s) impatient or irritated with something you (he) said or did.

When he (you) feel(s) hurt--rejected, embarrassed, or put down--by something you (he) said or did.

The Survey, handed out after an I-Group meeting of the second day, took only three or four minutes to complete; the results were presented in graphic form on newsprint at the beginning of the session following its administration Consistent with protocols collected over a wide range of groups (Fosmire & Keutzer, 1968), the results showed that (1) each member was saying that he was receptive to interpersonal feedback but that he perceived the others as unwilling to give it and that (2) each person was saying that, though he would report his feelings candidly, he doubted that otherswould do the same. Since the members were all saying this to one another, it became obvious to all that attempts at openness might be more safe than formerly believed.

Feedback Sociometric. Coincidentally within each I-Group, it was suggested (by the trainer in one group and by a participant in the other) that the group use a sociometric procedure to gain information as to how members were "perceiving" and reacting to one another. This particular procedure required that each member publicly identify the person in the group toward whom he felt most "open"--i.e., the person to whom he felt most free to give feedback. The corollary of this first phase requires that each member identify the person in the group from whom he can most comfortably

receive feedback. The results were presented on newsprint, in the form of a traditional sociogram. The exercise predictably generated many emotional responses from the members--raising such questions from individuals as "What am I doing in this group that makes me appear so unreceptive to feedback?" or "How do I say things that make others not want to listen?"

General Sessions. While much of the content of the general sessions was anticipated in advance of the lab, the sequence and form of presentation was largely determined by day-to-day assessment of what the participants seemed to be needing at that point in time. A brief summary of the calendar of events for the activities of the total group is presented below:

DAY ONE morning session: Communications skills and related exercises. (described above)

afternoon session: Interpersonal Openness Task.

The written material which introduces the Interpersonal Openness task defines what is meant by the expressions "being open with" and "being open to" interpersonal feedback (Wallen, 1966). The first, of course, refers to candor and directness in reporting reactions to the behavior of another; the latter refers to receptivity when another reports his reactions. Some specific questions regarding the advantages, limitations, and dangers of interpersonal openness are raised in the paper, and the participants, divided into five subgroups, were requested to prepare an eight-minute presentation entitled, "Openness in Human Relations." While the subgroups were advised that the presentation could deal with any aspect of openness and could be presented by a lecture, a round-table discussion, a dramatized demonstration, or a brief exercise using audience participation, each of the five groups chose to present a dramatized demonstration and each limited the content of the presentation to openness in a school situation. Total Time: 70 min.

DAY TWO morning session: "Johari Window" presentation and consensus task.

The first part of this session consisted of an illustrated lecturette and short discussion-session presenting the principles of the Johari Window (Ingham

& Luft, 1961), a heuristic device to encourage the participants to think about interpersonal relationships in terms of varying degree of awareness. Time: 20 minutes.

The second half of the session centered around a consensus problem, worked on in two "flip-flip fishbowls" (two concentric circles of persons--the outer circle serving as observers of the inner circle process--with allowance for alternation of persons between circles). The problem was to discuss and agree on the "best way for groups to proceed to work together on a problem"; and the written instructions, presenting essentially the two extremes of the process-centered and task-centered approaches to group problem-solving, were distributed to members as a take-off point for the discussion. Debriefing included both observations from the outer circle of the fishbowl (the members of which had been given an observation guide) and descriptions of feelings and behavior descriptions from the inner circle. Time: 20 minutes each inner group, ten minutes each debriefing period--60 minutes total time.

afternoon session: Interpersonal communication (lecturette)

A lecturette, presenting the "Characteristics of Helpful Feedback" (direct, specific, timely, nonevaluative, focussed on remediable behavior, and gauged to meet the needs of the receiver) was coupled with a short presentation which distinguished between "freeing" and "binding" responses in interpersonal communication. A limited group-discussion followed. Time: 35 minutes.

DAY THREE morning session: "Psychological intimacy" (lecturette)

This presentation described the dimension on which interpersonal communication could vary along the continuum of emotional closeness/distance (viz. topic, time-perspective, personal relevance, attitude toward feelings, proximity to direct experience, and degree of coercion in the interaction), and suggested ways in which persons could achieve any desired degree of closeness or distance in interpersonal situations. Time: 20 minutes.

afternoon session: "Critiquing the lab"

Requiring two concurrent fishbowls, this exercise provided that the members in either inner circle be paired with observers in the respective outer circles. After a twenty-minute discussion covering the "helpful" and "nonhelpful" aspects of the lab to date, each observer gave direct feedback to his particular observee, following the guidelines presented in the lecturette of the second day. More specifically the feedback was directed toward the level of verbal participation, the types of comments made in the discussion, and the effect of the contributions on the ongoing group-process. The inner and outer circles then switched places ("flip-flopped"), and the discussion and debriefing activities were continued. Time: 60 minutes.

DAY FOUR midday session: Consensus task

At the end of the morning I-Group meetings, the participants were asked to fill out a form, "Evaluating Your Meeting," in which each person rated the prior session on a six-point scale over three dimensions: (1) perceived personal value of the session; (2) strength of negative feelings, reservations, or misgivings about other members or the group as a result of the meeting; and (3) degree of attention and consideration give to one's contributions by the other group-members. After convening as a total group, the participants were divided into four subgroups comprising two fishbowls: half of Group A as the inner circle of one fishbowl and the other half of Group A as the outer (observational) circle of the other fishbowl; the B Group was similarly divided so as to take the counterpart places in each of the two fishbowls. The task given each inner circle was to arrive at consensus on each of seven items of a group form of the instrument, "Evaluating Your Meeting" (an analogue of the individual form completed earlier). Again a six-point rating-scale was used and the seven items operationally-defined and covered essentially the same content as did the prior three, and more general, items (e.g., balance of participation, amount of paraphrasing and summarizing attempted, modes of

conflict-management and decision-making).

The task of the outer circle in each fishbowl was to observe a particular member of the discussion-group and then to give him individual feedback at the conclusion of the discussion. Twenty minutes was allowed for the consensus task; five minutes was allowed for the feedback from the particular observer; and then ten minutes was spent in a general debriefing (group feedback) of the entire exercise. At this point, the inner circle exchanged places with the outer circle and the consensus task was begun once again (using a slightly altered evaluation-form). Again there was opportunity for feedback both from individuals and from the group. Time: 70 minutes.

DAY FIVE midday session: Interpersonal confrontation

Designed to guide the participants to meet and resolve interpersonal conflict, this exercise required that each person identify and pair off with one other person with whom he had some kind of conflict, misunderstanding, or "unfinished business," and to conjointly work on improving that relationship. Twenty minutes was allowed for the dyadic interaction; then the pairs returned to a thirty-minute general session to participate in one of five discussion-groups aimed at extracting any general principles which might underlie successful encounters of this type. Time: 60 minutes.

Second Week: Focus on Organizational Development

During the second week the transformation of the lab-participants into a "work group" in a "natural setting" with "social or professional function" was begun (again following Tuckman's distinction). The focus of the interventions was shifted from assessment and training in basic interpersonal skills to a focus on the "real-life" problems of a newly formed work-group; e.g., decision-making, agenda-setting, and conflict-management.

DAY SIX morning session: Decision Grid; action sociometric; Role analysis

As the introduction to the "organizational development" (OD) phase of the

laboratory, the "Decision-Making Grid: An Analysis of Individual Behavior in the Decision-Making Group" (Hall, O'Leary, & Williams, 1963) was administered to the participants. The use of this 80-item survey, concerning the behavior of individuals as they function as members of decision-making groups, was to provide the participants with a common conceptual framework and vocabulary. The grid covers four major categories relevant to group decision-making: the individual as a group member, leadership for a decision-making group, conflict-management in the decision-making group, and the relations between decision-making groups. Under each major category, four situations are described and five alternative patterns of individual behavior or attitudes are given as possible responses to each situation. These five alternative patterns parallel the five decision-making styles delineated by Hall et al. (1964): those of (1) "Good Neighbor Decision Making" characterized by a high concern for commitment to solution with the accompanying attitude that almost any solution is tolerable if all members can support it ("no task should be allowed to destroy the group"); (2) "Default Decision Making" where concern for both commitment and for adequacy of decision is low ("it is better to rely on precedent or experts outside the group, and not feed the conflict"); (3) "Self-Sufficient Decision Making" where the only high concern is for adequacy of solution ("group-centered action is a bid for mediocrity," and "demands of the group detour decisive thought to irrelevant issues"); (4) "Traditional Decision Making" where there is moderate concern for both adequacy of decision and commitment ("people must realize they have to give a little and take a little to get a job done," and one must "push for the best decision, but make sure there is enough agreement to get a decision and to insure implementation"); and (5) "Eye to Eye Decision Making" where there is high concern for both adquacy of and commitment to solution ("involvement of all group members in the decision results in both maximum support and a higher quality decision through an increase in resources").

Following the administration of the "Decision-Making Grid," a brief presentation of the various decision-making styles was given. Then each person was provided with scoring materials and some time to derive scores for himself on each of the five styles in the four categories of group decision-making. For clarification of the concepts and the meaning of the scores, a short discussion period was allowed, and individuals were given a reprint of an article which describes the rationale underlying the Decision-Making Grid (Hall, O'Leary & Williams, 1964). Two hours total time was spent on the "Decision Grid."

As an initial step in their unique organizational development the participants were asked to execute an action sociometric to highlight the problems and ambiguities of "departmental structure." The individuals who had been designated "department heads" were asked to scatter themselves around a large multi-purpose room. After they were situated, the rest of the faculty members were asked to attach themselves to the departmental head to which they felt they "belonged." For a large percentage of the faculty this was comparatively easy, but for some--those who had split assignments between two departments, who had some administrative responsibility, or who functioned as a service to the total faculty such as the principal and librarian--this technique left them standing as individuals in the large spaces between the departmental groups. After this demonstration of the perceived ambiguities of the proposed departmental structures, the many small departmental groups were randomly amalgamated to form three discussion-groups composed, in the main, of at least two department chairmen and their members and one or two of the members who did not feel they had clear departmental membership. In these three groups, the assigned task was to explore various perceptions of the role of the department head. While this topic was being discussed, two members of each group plus one member of the training staff served as observers of the process. The group members were seated in a circle and one empty chair was

provided so that an observer could enter the group at any time he wanted to contribute to the content of the discussion or when he wanted to report something concerning the manner in which the group was functioning. Whenever an observer occupied this seat, another group member was obliged to assume the role of observer.

afternoon session: Decision style discussions; Interest groups

Four "hemi-groups" were formed by dividing in half each of the two Inquiry Groups of the first week. The hemi-groups had the assigned task of sharing information with each other about their scores on the Decision Grid taken in the morning; they were to compare and contrast (1) the test results, (2) their self-perceptions of styles, and (3) the feedback the members of the hemi-group could give them concerning their typical decision-making behavior in that group. This feedback session lasted for about one hour.

The last two hours of the day were spent in ten small interest-groups formed around specific school problems, outlined by the principal, which were conceived to surpass, in scope, individual departmental concerns. The observation-procedure developed in the morning session was used again here.

DAY SEVEN morning session: Developing alternatives to traditional structure

The entire morning was spent in the Inquiry Groups established the prior week. Each of the I-Groups had the task of evol ing specific recommendations for supplements or alternatives to traditional departmental structures. This task was continued for an hour after lunch..

afternoon session: Decision-making via representatives

A fishbowl composed of two representatives from each of the I-Groups was to provide the means whereby a solution, to the morning's problem, binding for the total group, could be found. However this task was quickly abandoned when it became apparent that the two groups had not explored the specifics of the task assigned in the morning and, consequently, had not worked on the same problems. (One I-Group had spent the time designing departmental structure,

while the other had spent the time designing extra-departmental structure.) The day was concluded by a short debriefing on the process of information-sharing and decision-making via representatives.

DAY EIGHT morning session: Trust exercise; Problem-solving task

The interventions of day eight were based on some shared perceptions of the training staff gathered from the previous two days of the laboratory. These perceptions were that (1) the participants were beginning to relate to one another in a status-specific manner now that they were working on concrete "school-related" problems, and the exchanges and process in general were less productive and satisfying than they had been in the first week; (2) the participants had not identified "hidden agenda" based on differences in educational philosophy and past experiences in school systems (and in a few cases there was hidden "personal" agenda emerging from prior relationships between specific individuals); and (3) there was a markedly skewed distribution of participation whenever the group worked on specific institutional problems, and once one of the high participators "got the floor," the format was one of long speeches. The self- and other-perceived "expertise" of the individuals seemed to be determining who spoke and for how long.

On the basis of these perceptions, the morning of the eighth day began with an "unfreezing" activity. Specifically, each member was asked to pair via eye-contact with someone with whom he felt he had a "trust problem." Then, after pairing off, one member was to assume the role of a blind person and the other the role of "assister" and they were to spend 30 minutes, alternately, exploring the environment with each other in these roles. After a brief sharing of feelings and perceptions about the "blind man technique," the individuals were asked to form their I-Groups in the large room and spend fifteen minutes "brainstorming" for "hidden agenda" or those things which any individual felt "could not be talked about in the group." The participants were cautioned not to evaluate any contribution--only to note it. A period

followed when the two groups shared their lists--still with no evaluation or comment allowed.

The final two hours of the morning session were spent in the I-Groups, again with the task of creating a specific proposal for the decision-making structure to be adopted by the staff. During this session the training-staff introduced a technique designed to highlight and manipulate the problems of unequal participation and "speech-making" noted above. Each member of each I-Group was given five poker chips, each worth twenty seconds of "air time." If a person wanted to speak he was required to toss one of his poker chips onto the floor in the center of the group. This gave him the "floor." At the end of the twenty seconds, signalled by a toy clicker manipulated by one of the staff, the person had to either stop speaking or throw in another chip. The chips were not redistributed until all members had spent their chips, a procedure which forced those members who used up their chips immediately to sit silently while members who had not spoken used up their chips. Before redistributing the chips, the groups debriefed the experience; and the chips were re-allocated four times in this two-hour work-session.

afternoon session: Problem-solving task continued

The total faculty worked together for the first time on the afternoon of the eighth day. The assigned task again was the evolution of a decision-making structure which would be binding upon everyone on the school's staff. The "poker chip and clicker" technique was used again to facilitate a synchronous transition from the small I-Groups to the larger total group.

DAY NINE

The complete faculty continued work on the decision-making structure during the ninth day. The trainers intervened only for twenty minutes in the midmorning; at that time, the participants were instructed to choose by eye-contact someone from the other I-Group with whom they were experiencing conflict. These dyads were instructed to spend the time providing one another with relevant

19

feedback as to how each was "perceiving" and responding to the other, and to work on closing what Wallen (1967) terms the "interpersonal gap." The exercise was introduced in an attempt to dissipate the existing intergroup rivalry (inferred by the trainers and confirmed by reports from participants) which had apparently developed when the two I-Groups had worked together for the first time on the prior day--after each had undergone a week-and-a-half of moderately intensive but separate, and, for the most part, unshared experiences.

DAY TEN

The entire faculty worked together during the last day, with the trainers intervening only to provide, informally, intermittent process-feedback. The last hour of the day (and of the two-week laboratory) was spent in (1) discussing a proposed questionnaire aimed at assessing the impact of the summer program on the educational process of the high school--from the perspective of the student (an instrument which was later to be called the Environmental Description Questionnaire or EDQ); and (2) completing the "Situation Prediction Questionnaire (SPQ) for the second time--the post-lab administration.

Continuing Consultation

The activities of the trainer/consultants during the first school year of EHS can be seen as an extension of the summer lab experience, as follow-up "treatment," or as separate and unrelated events. In any case, a descriptive account of these activities is needed if one is even to begin evaluating the relative contribution of antecedent factors in treatment outcome. And though the determination of the "probable causes" of any end-of-year changes in the social system is exceedingly difficult, it is always interesting (and sometimes even productive) to speculate about specific and possible cause-effect relationships. The following is a chronological report of the major interactions between EHS and the training/consulting staff during the school year.

Although we had planned, for reasons of research design, no contact with

20

students beyond administering, periodically, a questionnaire to them (the EDQ), we were requested to help members of the student government work together more effectively in their task of framing a constitution for the school. Three trainers spent most of an October school day with the student-leaders. The report (presented in the Appendix), which was subsequently sent to the students, summarizes these activities and the principal recommendations.

Before the regular monthly meeting with the staff in November, we sent all staff-members a restatement of the objectives of the summer lab-experience and a summary of how they changed in their responses to the SPQ from the pre- to the post-lab administrations. (This information can be retrieved from Fig. 1 in the Results Section). The focus of that staff-meeting, however, was on the results of the EDQ administered to the students at the beginning of the school year. Reports of results were distributed to the teachers and they were invited to help decide on an effective way of getting the summarized results back to the students. After a discussion, the teachers agreed to distribute copies of the report in the "REP-rooms" (small groups of from 20-25 students formed to discuss school issues and send representatives to the lower house of student government). Some time was spent insuring that every staff-member understood the entire report.

The remainder of that November staff-meeting was spent in a regular business meeting. At its conclusion the consultants were invited to describe what they had observed about the functioning of the total staff. The consultants' report stimulated considerable discussion of the principal's mode of leadership in staff-meetings.

A snowstorm deterred the consultants' participation in the all-day in-service training activities scheduled for January. The next interaction with the total staff occurred in February, when a special meeting was held at the request of the principal to work on ways to increase the amount of student-involvement in the REP-rooms and to increase students' desires and ability to

handle their freedom more responsibly.

Having learned the technique of "force-field analysis" in the summer lab, the faculty was able to break into six-person work-groups to identify the forces which facilitate and which impede the desired behaviors. The senior consultant gave a short lecture on diffusion of innovation, then the participants "brain-stormed" the problem of reducing the impeding forces. Each work-group brought to the total group a number of suggestions for action-steps to be taken immediately. Another lecturette was given on methods of obtaining and using sociometric data in the classroom. The day ended with the staff developing plans for continuing to work on the problems of student involvement and responsibility.

The in-service training day in April was begun by introducing an exercise developed by Brissey (1968). Five-person groups generated lists of "surprises" (i.e., events which were discrepant with their expectations at the beginning of the school year), then rated each item ("event") in terms of its "pleasantness/unpleasantness" and "importance" for them. The lists were posted along one wall of the gymnasium so that everyone could mill around and review the various lists. Stimulated by the "surprise" data, interest groups were formed to discuss particular problems and to develop recommendations regarding procedures to be adopted to bring about improvements. After about an hour-and-a-half of work in the interest-groups, their respective recommendations were presented orally to the total group by a representative from each group.

Immediately before these oral presentations, each staff-member had written the names of three persons with whom he had "unfinished business" (unresolved conflicts, ambiguous role-relationships, etc.). On the basis of these data two large groups were formed, and the last two hours of the day were spent in "finishing" the unfinished business. In fishbowl style, the persons on the outside observed the inner circle as they gave interpersonal feedback to one another. At intervals the observers would critique the feedback as to degree of constructiveness. Then the outer and inner circles exchanged places, and the procedure

continued.

At the close of the day the consultant-staff presented (by both a written report and an oral summary) the results of the November administration of the EDQ to the students. Though the consultants were very satisfied with the absolute scores and the apparent marked contrasts with CHS on most items, the teachers were not cheered. They were more concerned with the results of the latest administration of the EDQ for they feared that there had been a downturn in student optimism, enthusiasm and positive reactions to the school. Unfortunately those results were not yet available; and the day seemed to end on a note of guarded optimism.

In addition to learning that the students had been responding favorably to the program five months earlier, the staff had identified a variety of problems in achieving specific goals for the new school, had analyzed and developed recommendations for immediate action for some of the more important of these problems, and had attempted to establish more openness in relations with some colleagues.

Although the various members of the consultation-training team visited the school four times during the school year to administer EDQs to samples of the student-body, and although the school principal and the senior consultant talked via telephone at least once a month, these contacts were devoted almost entirely to working out agreements regarding scheduling, testing-procedures, and planning for subsequent organizational-development activities. Such contacts, therefore, have not been described in detail in the Procedures part of this paper, though their influence (albeit partially counterbalanced by parallel contacts at CHS) is recognized.

Results

Situation Prediction Questionnaire

It can never be taken for granted that a set of laboratory experiences, however subjectively satisfying or pleasing to one's clinical judgment, will have a systematic effect on even the verbal behavior of participants. Thus we wanted a tangible index of what may be termed "attitude" (insofar as predicted performance of an act indicates approval for that act) toward certain behaviors. If the laboratory were successful in approaching goals for which it was designed, index scores should indicate that participants had a higher level of commitment to these behaviors following the two-week experience than they had before the lab.

Items for the Situation Prediction Questionnaire (SPQ) were generated to allow predictions on the part of the faculty members with regard to their own behavior in the realms of (1) dealing with co-workers in a direct and candid manner (candor); (2) receiving direct and candid reactions from others (receptivity); (3) attempting and promoting innovation in teaching methods (initiation/risk); (4) encouraging open, direct expression and management of conflict (conflict-acceptance); and (5) taking initiative to increase critical comment on one's own work (security). A cluster of items for each domain calls for the general response across several hypothetical situations.

For ease of viewing the results, we have reduced the SPQ data by combining scores of items which, on a rational basis, seemed to belong together. The actual constituent items of each cluster are presented in Table 1.

The method of planned comparisons (Hays, 1963) was used to assess the differences, both between schools and within schools over time, in the SPQ clusters. The faculties of both the experimental and control schools responded to the SPQ twice, at approximately a two-week interval, in late summer or early

fall of 1968. The laboratory-learning experience took place between administrations for EHS; a period of normal functioning as a faculty intervened between administrations at CHS.

The first set of contrasts (whose defining weights are presented in Table 2) detects divergence/convergence of the two groups as a result of the experimental intervention; i.e., they test for increase/decrease in differences between schools before and after the intervention $/(EHS_2 - CHS_2) - (EHS_1 - CHS_1)/$.

The second set of weights detects changes in responses (in both groups) on second testing which are attributable to prior exposure to the instrument (the "retest" effect); the sensitizing or persuasive effect of asking the SPQ questions is "error" as far as assessment of the effects of the laboratory is concerned.

Weights for comparison III serve to contrast the changes over the course of the 1968-69 academic year ("year-trend") on the part of the faculties of the two schools. Divergence of predictions over time could be interpreted as a "multiplier effect" of exposure to a subculture created in the laboratory experience; convergence of prediction-probabilities could indicate that the change attributable to the laboratory experience was transitory. Both possibilities seemed plausible enough to merit testing.

A technical word about the way the data was treated should be injected here. As is frequently the case when subjects construe a question as requiring relative frequencies or proportions as answers, the data concerning likelihood of events presented a marked heterogeneity of variance. Thus the arcsin transformation of estimates provided a better estimate of mean responses than did the raw data (Meyers, 1966). The above-described analyses of SPQ responses were, therefore, performed on transformed values.

Table 3 presents the results of the planned comparison tests. The act of

raising the issue of "candor" in the first testing seems to have had the effect of inducing greater self-reported candor in the second testing; the retest in both populations revealed higher predictions of candid behavior than did the original testing. However, the increase in predicted candor at EHS following the lab was significantly greater than the increase at CHS at retest. This difference between faculties was maintained throughout the school year; no reliable differences in "year-trend" (as seen by Comparison III) was observed.

Similarly EHS showed significantly greater increase in predicted acceptance of overt conflict ("conflict-acceptance" cluster) on the first retest than did CHS. Again, this difference was maintained throughout the school year and no reliable difference in year-trend was observed. The fact that no reliable measurement effect (Comparison II) was observed might suggest that tolerance-for-overt-conflict lacked the motivating aura of social desirability that seemed to surround the issue of candor.

No other effects were significant at the $p < .0039$ level to which these analyses were held. Any less rigorous level of significance would necessitate assuming a greater than five percent risk of "alpha error"--that is, a risk of accepting one or more chance fluctuations in the data as reliable effects. On the other hand, we saw no reason to entirely ignore trends which were not sufficiently strong to be demonstrated by the limited number of observations in this study b u t which might nevertheless suggest important effects.

Perusal of Fig. 1, displaying the comparative changes over time of CHS and EHS, might be helpful in exploring some of the suggestive if statistically nonsignificant trends reported in Table 3. Curiously, the trends toward a "negative experimental" effect (Comparison I) and a "measurement" effect (Comparison II) in "receptivity" reflected virtually no change on the part of the experimental population; rather there was a rather marked change on the part

of the control group from first to second testing, causing them to closely approach the stable position maintained by the experimental group. With respect to the "receptivity" cluster, then, the laboratory was apparently no more powerful than the ordinary pressures of testing in inducing predictions of socially-desirable behaviors.

While the trends with regard to the initiation of experimental-teaching-methods ("initiation" cluster) were too weak to warrant even speculative discussion, the "security" cluster (the tendency to invite critical candid comment from others) aroused our interest. The weak trends toward "experimental" (Comparison I) and "measurement" (II) effects were both due solely to greater predicted activity on the part of EHS and might, thus, reflect an effect of the laboratory experience; if so, however, the effect was transitory, for an equally strong year-trend denoted a convergence of EHS and CHS.

Despite strenuous and rather successful efforts to match the two schools (EHS and CHS) on demographic variables, the matching was, of course, imperfect. No two faculties, systematically and actively recruited by different administrators with values differing to an undefined degree, could be expected to reflect the same level of commitment to the same norms. Indeed, a casual inspection of Figure 1 will disclose that the SPQ questionnaires were sensitive to differences even before the laboratory increased their differences in experience. The effects of the experimental procedure, it is important to note, in every instance served to <u>increase</u> these differences between faculties.

<u>Environmental Description Questionnaire</u>

The SPQ data attempted answers to two questions: (1) would the laboratory experience have an immediate impact on the participants, and (2) would those effects endure? But self-perceived behavior-tendencies are not necessarily translated into observable behavior. As Campbell and Dunnette (1968) have

emphasized, observable changes in job behavior have seldom been shown to accompany changes in internal criteria.

In an effort to look more closely at this relationship, we asked students in both schools to observe and describe the teaching environment for us. If the differences between faculties, reflected by teachers' self-reports on the SPQ were indeed translated into differences in behavior, observations by students at the two schools should differ also.

The Environmental Description Questionnaire (EDQ) was constructed to assess the expectations and preferences of students regarding various aspects of school life. The questions did not focus exclusively on the behavior of teachers but tapped a variety of characteristics of school life which should indicate the direction of faculty leadership in the school.

The EDQ was administered twice at CHS--to all students at the beginning of the year (September) and to a representative sample of students at the end of the year (May). At EHS, in an attempt to test each student twice, the EDQ was administered to all students in September and to representative samples of students again in November, January, March, and May. By testing at intervals we hoped to discern how quickly the students changed their expectations after gaining experience in the EHS environment. Since both schools were opening their doors for the first time, the initial responses of students were considered as expectations based on previous school experience.

Table 4 presents the defining weights of the three sets of comparisons planned for the analysis of these data. The first set of contrasts detects divergence in frequency of events covered by the EDQ. Differences in this comparison reflect either (1) greater change at EHS, (2) opposite trends over the year at the two schools, or (3) both greater change at EHS and opposite trends.

The second set of weights detects any general tendencies in both schools to increase or decrease over the year. The third set of weights detects deviation from a linear growth trend over the year at EHS. If both tests I and III were significant for a given item, one could conclude that the greatest change in a differentiating characteristic occurred early and remained fairly constant. If test III alone were significant, one could conclude either that an early divergence was subsequently reversed and canceled or that the change was paralleled at CHS.

Since three contrasts were applied to each of 40 items (shown in Table 5), it was necessary to demand that each test be conducted at the $p < .00015$ significance level in order to maintain an acceptable $p < .05$ level for the entire set. We can be more than 95 percent certain that each of the indicated critical differences is indeed a reliable difference. Since the number of student-observers was fairly large, nonsignificant differences were of modest size and do not warrant even tentative interpretation.

Figure 2 presents graphically the means (probability estimations) for each EDQ item at specified times over the school year. These line graphs reveal that the means of student-expectations at EHS did not, as a rule, progress smoothly (monotonically) from September to May; rather many items were characterized by periods of apparent retrogression. Figure 2 points up, however, the rather large number of items on which EHS students described their school as clearly changing and changing in a direction different from that at CHS.

Although the satisfaction of students with their school may not be the most important criterion in evaluating school atmosphere, it may relate to absenteeism, drop-out rate, and enthusiasm for learning. The EDQ sought two answers to every item: (1) what was the probability of the described event

occurring (data reported in Table 5 and Figure 2), and (2) how often <u>should</u> the event occur (i.e., more often, less often, same as now, or does not matter). Comparing the two sets of answers for each school on both the September and May administrations allowed us to see whether the schools changed in the preferred direction on each item.

According to the perceptions of EHS students, of those 26 events on which 51 percent or more had agreed that it should occur more frequently, the relative frequency of its reported occurrence had indeed increased from September to May. Similarly, EHS students reported a lower relative frequency of occurrence (in May than in September) for all ten items on which a majority preferred a lower frequency of occurrence. Thus for all 36 items on which there was a September consensus (51% of students agreeing on a preferred direction of change), there was, by May, indication of the desired change. The probability of obtaining this degree of agreement between preference and observation by chance is infinitesimally small ($p < 1/10^8$, exact test).

We calculated these concordance rates for CHS also. In contrast to EHS, there was a slight tendency for observed changes between September and May to be in directions <u>opposite</u> to preferences. Of the 20 items for which there was consensus (at least 51% of the students agreeing on preferred direction of change), only five changed in the desired direction. (The probability of chance disagreement this large between preference and observation is less than .25 by exact test.) The smaller number of items on which a majority of CHS students indicated a preferred change (20 compared to 36 such items at EHS) was due, in part, to a larger number of "do not care" responses at CHS.

To see how representative of Oregon high schools these two schools (EHS and CHS) were, we administered the EDQ to 100-student samples from four

additional schools. Though from quite widely dispersed geographic areas, the four schools were comparable in size to CHS and EHS. According to the EDQ data, we inferred that CHS resembled EHS more closely than it resembled any of the four additional schools. More generally, the data suggested that both EHS and CHS were somewhat deviant in the direction of greater interpersonal openness among both staff and students.

Observational and Anecdotal Data

Intra-faculty Relationships. The consultation staff had the opportunity to observe task-center staff-interactions during two staff meetings and during the day of in-service training in April. It was our impression that the staff behaved in a manner consistent with their self-descriptions on the SPQ. They seemed to be quite open with one another, and were skillful in their use of the language of observation and the language of introspection and empathy. Further they seemed to be earnestly trying to arrive at decisions of high quality without sacrificing commitment to carry out the decision; that is, they attempted to find competent solutions to problems external to the staff as a social system while maintaining intra-system integrity. Conflict did not typically produce "flight" behavior, but was used instead to generate additional information; i.e., they attempted to use conflict constructively.

Relations between teaching-staff and administrators never appeared to be guarded or defensive. With rare exceptions, the principal modeled the skills (e.g., open communication and conjoint problem-solving) which had been emphasized in the summer laboratory-experience.

Student-Faculty Relationships. Possibly most striking of all were the interactions between the staff and students, and the faculty-lounge was our principal observation-center for these interactions. In line with what seemed

to be a perpetual "open door policy," students would come in singly or in twos and threes (with no apparent feelings of uneasiness) to talk with individual members of the staff. In this lounge, where staff-members took their coffee breaks, ate lunch, and held both formal and spontaneous discussions of school business, it was not unusual to see a teacher simultaneously eating lunch and tutoring a student. Next to that dyad might be two other teachers discussing a specific school problem while another teacher and a group of students planned a forthcoming event. Though many unrelated conversations were typically occurring at once, the noise level was not excessively high and there seemed to be an atmosphere of both seriousness and relaxation.

We were able to observe the student-faculty interactions in one other context. In our several administrations of the EDQ (each of which involved a departure from the daily academic schedule), we saw no confirmation of the widespread fear that the teacher who relates to students more on a person-to-person basis (as opposed to stylized role-performance in keeping with given statuses) "loses control" of students. We observed very few instances of students responding to staff in ways which connoted disrespect or insensitivity.

Student-Student Relationships. A visitor to EHS could not help noticing a number of characteristics of student-life which set this school off from the average high school. Regardless of the hour or day that we visited, we were always impressed by the level of activity. Students were in motion--talking, arguing, laughing, meeting with teachers, etc. There was not, however, much "horseplay"; rather it seemed more an atmosphere of "creative chaos." Whether the students were more or less creative than in other schools, they appeared to be more involved in the school-experience.

Staff-School Relationships. In spite of the selection-procedures and

training program, not every staff member was fully committed to the emerging organizational philosophy. In the spring, one teacher decided--conjointly with the principal--not to continue in the school during the coming year. He reported that he found the orientation to be stressful to him, that it exacerbated some of his basic fears about the morality of students in an unsupervised and unregulated situation. A second teacher decided to terminate also, although that decision was related more to a lack of personal commitment to any specific life-goals than to a disagreement with the goals of EHS.

This school district has a regular practice of allowing teachers to request transfers between schools within the district if they wish. The fact that, in the spring, there were 24 requests for transfer <u>to</u> the experimental school and no requests for transfer <u>from</u> the school seemed to indicate considerable satisfaction with (or at least challenge by) the school among the teaching staff.

<u>Caveat</u>. Lest we give the impression that, from our biased eyes, all hopes were realized during the first year of operation of EHS, we might reiterate some of the continuing problems which were recognized by both school personnel and consultation staff. In no particular order, the major concerns were the following:

(1) The students seemed not to have the skills to take full advantage of the opportunities for self-government in academic affairs. This seemed to be especially true at the beginning of the school year, although in April there were still large differences between REP-rooms (units of self-government) in terms of degree of involvement in student government.

(2) A number of students seemed not to have sufficient self-discipline to manage intelligently the amount of freedom they were given. Their "irresponsibility" most often took the form of wandering away from school

during regular school hours (a particularly seductive "Dairy Queen" establishment was located nearby) and of failing to make normal progress in their academic learning.

(3) Though the in-service training in April seemed to at least partially restore feelings of confidence and of competence, the faculty suffered a serious diminution of morale in late March and April. This "low phase" was attributed by many teachers to the recognition of the above two concerns.

Discussion

In this paper we have attempted to describe in some detail a ten-day training program conducted with the staff of a newly formed high school. The assessed impact of that learning-experience on both the staff and students of the school has been the major focus. Although large amounts of data have been systematically collected and summarized in this effort, we believe that the present results (and indeed the results of all applied research of this sort) must depend upon external corroborating evidence for final confirmation, interpretation and validation.

Both in practice and in principle, outcome-evaluation studies in a field setting lack the epistomological efficiency of laboratory research. As Campbell and Stanley (1963, p. 1) point out, not all important questions can be pursued "...in the Fischer (1925, 1935) tradition in which an experimenter, having complete mastery, can schedule treatments and measurements for optimal efficiency, with (the details) of design emerging only from that goal of efficiency."

When it is not feasible to randomly assign a large number of cases (in the present study, the school faculty is, of course, the basic unit) to conditions which are under rigorous control for the duration of the experimental

period, many variables which might influence the results remain uncontrolled; and the task of obtaining clear answers to theoretical and practical questions becomes much more difficult. Procedures by which one might approach the complex task of applied research are outline by Campbell and Stanley's (1963) excellent article.

It is clear, however, that what is lost in experimental power is counterbalanced, often very heavily, by the ecological or external validity of the results. We can be certain that the treatments in question do have a measurable effect within the environment with which we are concerned. Shaky extrapolation from a peculiar and simplified laboratory environment to a vastly more complex, interactive environment is not required to permit application of our knowledge.

Nonetheless, it is unlikely that any field study, however well-designed, can ever be sufficiently rigorous to provide the ultimate answers to critical experimental questions. Converging evidence from sets of observations will almost surely be required. It is therefore most fortunate that the present results are paralleled by those of Schmuck, Runkel and Langmeyer (1969). This convergence of observations strengthens our confidence (1) that an interaction of subject-selection and the treatment is not of primary importance in accounting for the results, and (2) that some (albeit unidentified) feature or interaction of features of the intervention <u>can</u> account for the results. For the methodological reasons discussed above, it is obvious that our observations, <u>in isolation</u>, cannot be assumed to generalize beyond a sample having the peculiarities of the EHS faculty. The fact that Schmuck's research (sketchily summarized below) yielded similar results in a sample with somewhat different characteristics gives us an indication that our results can be generalized to a less constricted population of faculties.

Schmuck et al. (1969) report an immediate effect upon the participants (faculty) very similar to that which we observed. They summarized (p. 23): "On balance, we believe these results indicate that after our intervention the faculty at the experimental school, to a greater degree than the faculties near Seattle, were more open in their interpersonal communication and were more willing to talk about their feelings." The Schmuck team also found that the members of the experimental school faculty were significantly more approving of their principal after the intervention, more involved in staff- and committee-meetings, and more innovative in their teaching practices.

In like manner, the Schmuck et al. data were similar to ours in suggesting that some effects of their intervention generalized to the classroom. A student who worked with the Schmuck team in O. D. work with the Kent (Washington) public schools made tape recordings of classroom interaction at the experimental school and at control schools. Classroom interactions, coded with Flanders (1964) interaction analysis, revealed that teachers at the experimental achool were manifesting their learning in their classroom behavior (Bigelow, 1969).

Even more central to the interpretation of the present study is a consideration of the ways in which the procedures of our intervention and those of Schmuck et al. are different and the ways in which they are similar and thus replicative. Though a point-by-point comparison of training procedures would reveal many differences, the aims of the two projects were nearly identical. The explicit objectives of both interventions were those of <u>organizational development</u>; and even though personal growth and skill-building were among the subsidiary objectives of <u>our</u> program, the intervention had as its prime target the enhancement of system-functioning.

Readers familiar with T-group or sensitivity training will recognize

numerous points of similarity between the training procedures conducted for the client school and many sensitivity-training labs; however, some important differences need be explicated. T-groups traditionally are focused on the personal growth of the individual participants, with principal goals of increasing the awareness of the self as a social object. Effort is made to facilitate the learning of concepts and skills in order to lead to "constructive openness." T-groups typically are comprised of persons who are initially strangers to one another; as a group they have no history and no future.

In contrast, O. D.-intervention focuses on organizational effectiveness. Following systems theorists (e.g., Buckley, 1967), we assumed that the system which is most "open" is most adaptive to change and most effective. (In this context, "openness" refers to receptivity to inputs from the system-environment--e.g., in the case of EHS this might include the district administration, parents, and townspeople.) Obviously, then, an O. D.-intervention may incorporate some of the goals of T-group methods in the service of organizational objectives. Indeed Argyris (1962) argues that organizational effectiveness rests on a foundation of interpersonal competence. (The attribute to which he refers here is the same competence that traditional T-groups have sought to enhance.) In our view of O. D.-intervention, the interpersonal insights and skills become tools for evolving and clarifying work-related norms, customs, procedures, and policies which facilitate achievement of the organizational mission.

A slight digression to consider the meaning of the term "norm" might clarify how we view O. D. effects in general and O. D. effects at EHS. By "norm" we mean the expectations shared by members of a social system regarding how the occupant of a particular role-position should behave. If norms are prescribed by authority-figures and enforced by management via a system of

rewards and punishments, we might speak of "external" control. This approach to organizational control has been criticized by those who favor a "human relations" emphasis in management or administration (e.g., Argyris, 1962; McGregor, 1960). The "human relations" proponents contend that members of an organization are capable of evolving norms to which they feel committed and which enhance organizational effectiveness. Organizational norms developed in this manner are commonly thought to be self- and peer-enforced, yielding what might thereby be called "internal" control. And the development of "internal" control is a critical part of what we are calling O. D.-intervention.

As previously stated, we shared with the Schmuck et al. group a conception and commitment to organizational development as the focus of the interventions; and, in spite of the differences in terms of fine-grain details of design and the personalities of the training teams, there was great similarity in general philosophy. Common sets of concepts and skills were presented. Parallel results in the two studies suggest, therefore, that it was the broader similarities rather than the narrow details which were the effective features of both experimental designs.

As a summary of the findings of the present research, we advance the following statement: An organizational development intervention in a new (high school) social system described heretofore had an effect upon both faculty and students in that (1) teachers exhibited greater interpersonal openness (candor and conflict-acceptance) and (2) students saw the faculty as more receptive to student ideas, opinions and attitudes and they became more co-active with the staff in making decisions affecting their learning, they developed stronger feelings of responsibility toward fellow-students and faculty, and they developed stronger student-enforced "internal norms" bearing on behavior in unsupervised areas as well as in the classroom.

Several important questions remain. Further studies will be required to determine the extent to which successful O. D.-interventions depend on a favorable psychological setting--if not a climate of enthusiasm, at least a willingness on the part of participants to experiment with new ways of functioning. Similarly, additional investigations are needed to determine the forces which influence the rate of "fade-out" of obtained effects.

References

Argyris, C. Interpersonal competence and organizational effectiveness. Homewood, Illinois: Irwin, 1962.

Bigelow, R. C. The effect of organizational development on classroom climate. Unpublished doctoral dissertation. University of Oregon, 1969.

Buckley, W. Sociology and modern systems theory. Englewood Cliffs, N. J.: Prentice-Hall, 1967.

Campbell, D. T. & Stanley, J. C. Experimental and quasi-experimental designs for research. Chicago: Rand McNally, 1963

Campbell, J. P. & Dunnette, M. D. Effectiveness of T-Group experiences in managerial training and development. Psychological Bulletin, 1968, 70, 73-104.

Fisher, R. A. Statistical methods for research workers. London: Oliver & Boyd, 1925.

Fisher, R. A. The design of experiments. London: Oliver & Boyd, 1935.

Flanders, N. Interaction analysis in the classroom: A manual for observers. Ann Arbor: University of Michigan, 1964.

Fosmire, F. & Keutzer, C. Task-directed learning: a systems-analysis approach to marital therapy. Paper presented at OPA-WSPA meeting, May 1968 at Crystal Mountain, Washington. (Mimeo, 1968, University of Oregon).

Hall, J., O'Leary, V. & Williams, M. The decision-making grid: an analysis of individual behavior in the decision-making group. 1963.

Hall, J., O'Leary, V. & Williams, M. The decision-making grid: a model of decision-making styles. California Management Review, 1964, Winter, 43-54.

Hays, W. L. Statistics for psychologists. Holt, Rinehart, 1963.

Keutzer, C. & Fosmire, F. Situation Prediction Questionnaire. Mimeo, July 1968, University of Oregon.

Luft, J. & Ingham, H. The Johari Window, a graphic model for interpersonal relations. Western Training Laboratory in Group Development, August 1955, University of California at Los Angeles, Extension Office.

McGregor, D. The human side of enterprise. New York: McGraw-Hill, 1960.

Meyer, J. L. Fundamentals of experimental design. Boston: Allyn & Bacon, 1966.

Schmuck, R. A., Runkel, P. J. & Langmeyer, D. Improving organization problem solving in a school faculty, Journal of Applied Behavioral Science, 1969, 5, 455-482.

Tuckman, B. W. Developmental sequence in small groups. Psychological Bulletin, 1965, 63, 384-399.

Wallen, J. L. Group expectations survey: Form O (mimeo), Portland, Oregon, 1966.

Wallen, J. L. Openness in human relations--Group task. Mimeo, Portland, 1966.

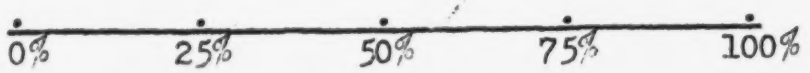
Wallen, J. L. Skills in helping others understand you as a person (and supplemental exercises, "Communication of feeling" F-1, F-2, and F-3). Mimeo, Portland, 1967.

Wallen, J. L. The interpersonal gap. Northwest Regional Educational Laboratory, Portland, 1967.

Table 1

SPQ Item Clusters

The Situation Prediction Questionnaire is a paper-and-pencil instrument designed to assess the probability that the test-taker would respond in any of several alternative ways in a given situation. He was asked to indicate this probability by a check mark at the appropriate place on a linear scale like the following:



The items (alternative behaviors) are reproduced below and are preceded in every case by the hypothetical situation to which they pertain. The order of presentation has been changed to provide for grouping of items within common rational clusters. The direction (+ or -) of the item's contribution to the cluster score is also indicated.

CANDOR (Six component items)

In every school building there are invariable annoyances and difficulties between people who work together. The person who is dissatisfied with something another is doing (a) might keep it to himself, perhaps waiting for the problem to take care of itself; (b) might talk about it with someone other than the "offending" person; or (c) might discuss it with the person with whom he is dissatisfied. Estimated the probability that you would tell the person involved about your dissatisfaction IF...

that person is a superior (e.g., the principal) (+)

the person is a subordinate (e.g., a teaching aide or janitor) (+)

that person is a teaching colleague (+)

Suppose, in the course of your work, you feel hurt and "put down" by something another teacher has said to you. Estimate the probability that you would...

avoid the other teacher for awhile (-)

tell the other teacher that you felt hurt and put down (+)

tell your friends that the other teacher is hard to get along with (-)

RECEPTIVITY (Five component items)

One of the main risks in confronting a person with something you don't like about the way he is behaving is that he will feel hurt, "put down," or angry. Estimate the probability that you yourself would feel this way IF...

the person confronting you were a teaching colleague (-)

the person confronting you were a superior (e.g., the principal)(-)

the person were a subordinate (e.g., a teaching aide or janitor)(-)

Suppose you are in the middle of a carefully planned classroom program in which you have invested much time, thought, and effort. A student expresses dissatisfaction with the way things are going and suggests a modification or change in the procedure. Estimate the probability that you would...

ignore the suggestion or defer it for later consideration (-)

check out the feelings and opinions of the other students in the class (+)

INITIATIVE/RISK (Three component items)

Innovation in teaching is always accompanied by risk of failure. Suppose you have an exciting idea for a new way of teaching that could really enhance the degree of learning of students, but suppose also that there is a possibility that the new approach might not go over at all. Estimate the probability that you would try out the new method anyway IF...

there were a high risk that the new method would fail (+)

Suppose you develop a particularly useful and effective method for teaching something. Estimate the probability that you would...

describe it briefly at a faculty meeting and offer to meet with others who wanted to hear more about it (+)

say nothing about it unless somebody asked you (-)

CONFLICT-ACCEPTANCE (Seven component items)

Suppose you are present when two other teachers get into a heated argument about how the school should be run. Estimate the probability that you would...

listen to both parties in the argument and then side with the one you think is right (+)

try to get the two to quiet down and stop arguing (-)

help each one in the argument to understand the viewpoint of the other (+)

avoid getting involved in the interaction at all (-)

Suppose you strongly disagree with a procedure that the principal has outlined for all to follow. Estimate the probability that you would...

go and talk with the principal about this disagreement (+)

say nothing but ignore the principal's directive (-)

say nothing but comply grudgingly with the principal's directive (-)

SECURITY (Four component items)

Suppose you wanted to improve your classroom effectiveness in some area. What is the probability that you would...

ask another teacher to observe your teaching and then have a conference with you afterwards (+)

ask another teacher to let you observe how he teaches the material in order to get an idea how to improve your own methods (+)

use a questionnaire to find out how your students feel about your teaching in this area (+)

hold a free and open discussion with your students about your teaching of this subject matter (+)

Table 2

Weights Defining the Planned Comparisons of Means on SPQ Clusters

Comparison	EHS pre-lab	EHS post-lab	EHS May	CHS Sept.	CHS Oct.	CHS May
I. Experimental effect	- 1	+ 1	0	+ 1	- 1	0
II. Measurement effect	- 1	+ 1	0	- 1	+ 1	0
III. Divergent trends	- 1	- 1	+ 2	+ 1	+ 1	- 2

Table 3

Results of Planned Comparison Tests on SPQ Clusters

Cluster	Contrast	SS	F	Probability Level*
CANDOR	I Experimental	2.5411	7.39	$p < .0039$**
	II Measurement	6.7150	19.53	$p < .0039$**
	III Divergence	0.0009	0.00	$p > .50$
RECEPTIVITY	I Experimental	1.1894	3.46	$p < .10$
	II Measurement	1.1635	3.38	$p < .10$
	III Divergence	0.1632	0.47	$p > .50$
INITIATION/ RISK	I Experimental	0.8026	2.33	$p < .25$
	II Measurement	0.0091	0.03	$p > .50$
	III Divergence	0.0386	0.11	$p > .50$
CONFLICT- ACCEPTANCE	I Experimental	2.5099	7.30	$p < .0039$**
	II Measurement	0.4027	1.17	$p < .50$
	III Divergence	0.7479	2.18	$p < .25$
SECURITY	I Experimental	1.7820	5.18	$p < .05$
	II Measurement	0.9941	2.89	$p < .10$
	III Divergence	1.6851	4.90	$p < .05$

* The probability that apparent effects this large could occur by chance alone

** Significant finding, maintaining alpha < .05 for entire set of 15 comparisons

Table 4

Weights Defining the Planned Comparisons of Means on EDQ Items

Comparison	EHS Sept. N = 489	EHS Nov. N = 130	EHS Jan. N = 110	EHS March N = 112	EHS May N = 78	CHS Oct. N = 441	CHS May N = 81
I Experimental effect (Comparative net growth)	- 1				+ 1	+ 1	- 1
II Entropy (Movement over time)	+ 1				- 1	+ 1	- 1
III Initial growth (and subsequent decay)	- 2	+ 1	+ 2	+ 1	- 2		

Table 5

Results of F-tests of Planned Comparisons for EDQ Items

Comparison I	II	III	#	Item as Presented
	c	e	1.	Teachers regularly check up on the students to make sure that assignments are being carried out on time.
			2.	Students help one another understand the material presented in class.
b		e	3.	Teachers go out of their way to make sure that students treat them with respect.
b	c	e	4.	When a student expresses anger with one teacher, the other teachers soon know about it.
b	c	e	5.	Teachers make students feel like children.
a			6.	If a student thinks out a report carefully, teachers will give him a good grade, even if they don't agree with him.
a			7.	If assignments are not clear the teachers don't mind answering all the questions that students want to ask.
a	d	f	8.	Students are encouraged to help decide how the class will be taught.
b	c		9.	Students say nothing in class unless called upon.
			10.	Teachers treat questions in class as if the students were criticizing them personally.

---

[a] Indicates EHS was significantly higher on that reported event than was CHS with the difference being significant at the .00015 level (in keeping with a .05 level of significance over the entire set of tests).

[b] Indicates EHS was significantly lower on that reported event than was CHS with the difference being significant at the .00015 level.

[c] Indicates a significant tendency for this item to increase over time and across schools ($p < .00015$).

[d] Indicates a significant tendency for this item to decrease over time and across schools ($p < .00015$).

[e] Indicates initial growth and subsequent decay or leveling off ($p < .00015$).

[f] Indicates initial decrement and subsequent recovery or leveling off ($p < .00015$).

Comparison

I	II	III	#	Item as Presented
a			11.	If students do their work well they get a good grade, whether or not the teachers like them.
		f	12.	Students feel responsibility for making class worthwhile and interesting.
	d	f	13.	Students are encouraged to help decide what will be covered in a class.
			14.	Teachers restate and ask questions until they are sure they understand what students are saying.
			15.	When a student presents an idea no one responds.
			16.	If a student expresses dissatisfaction with the way a class is going, a teacher would:
b	c	e		a. Ignore the suggestion or wait until later to consider it.
a	d			b. Check out the reactions of others in the class.
a		f		c. Change the way he was running the class if the other students were dissatisfied.
			17.	In order to find out how things were going in the classroom, a teacher would
				a. Use a questionnaire.
a		e		b. Hold a free and open discussion with the students
			18.	In a class, students would take responsibility for changing things that seem to make some students feel insecure, put-down, or useless.
			19.	Suppose a rule were broken by a student in the cafeteria, halls or parking lot. What is the chance another student would
		f		a. Say something to this student.
				b. Tell a teacher.
a	d			c. Bring it up to student government.
b				d. Ignore it, and let a teacher catch him.
a			20.	If a student were teased to a point of anger or tears, he would get help from some other student.
		e	21.	Estimate the chance that if a group of students want to organize an extra-curricular sport, such as rugby, they would get support from the physical education department.

Comparison I	II	III	#	Item as Presented
			22.	Estimate the chance that in an activity group, the goals and projects of the group are set by
a		e		a. the students alone.
b		f		b. the sponsor(s) alone.
a				c. the students and sponsors together.
			23.	Estimate the chance that in unsupervised areas (cafeteria, halls, parking lots) the rules for student behavior are set by
	d	e		a. the student government alone.
b	c	e		b. the faculty alone.
a	d			c. the student government and faculty together.
			24.	Estimate the chance that an activity group will be formed or abolished by
a				a. a group of interested students.
b	c			b. the faculty sponsor(s)
a				c. a group of interested students and the sponsor(s).
a			25.	Estimate the chance that if a member of an activity group is unhappy with a project or the way the project is being done, he would feel free to share these feelings with the group.
			26.	Estimate the chance that after a project has been decided upon in an activity group, the
	c			a. sponsor sees that it gets done.
a				b. the entire group sees that it gets done.
				c. a sub-group sees that it gets done.

---

a Indicates EHS was significantly higher on that reported event than was CHS.

b Indicates EHS was significantly lower on that reported event than was CHS.

c Indicates a significant tendency for this item to increase over time.

d Indicates a significant tendency for this item to decrease over time.

e Indicates initial growth and subsequent decay or leveling off.

f Indicates initial decrease and subsequent recovery or leveling off.

Figure 1. S.P.Q. rational-cluster index-scores.

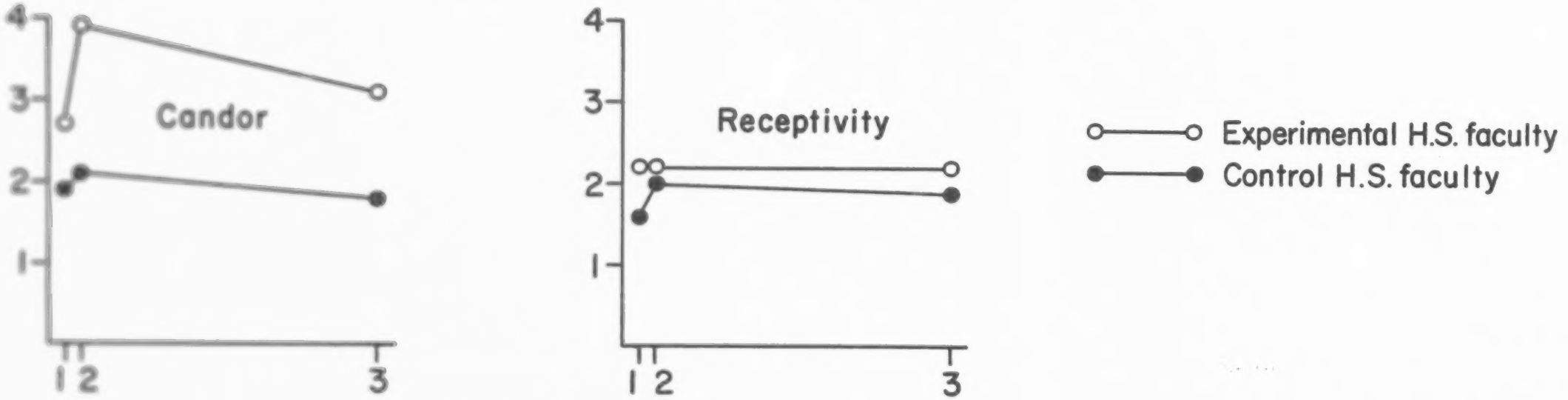
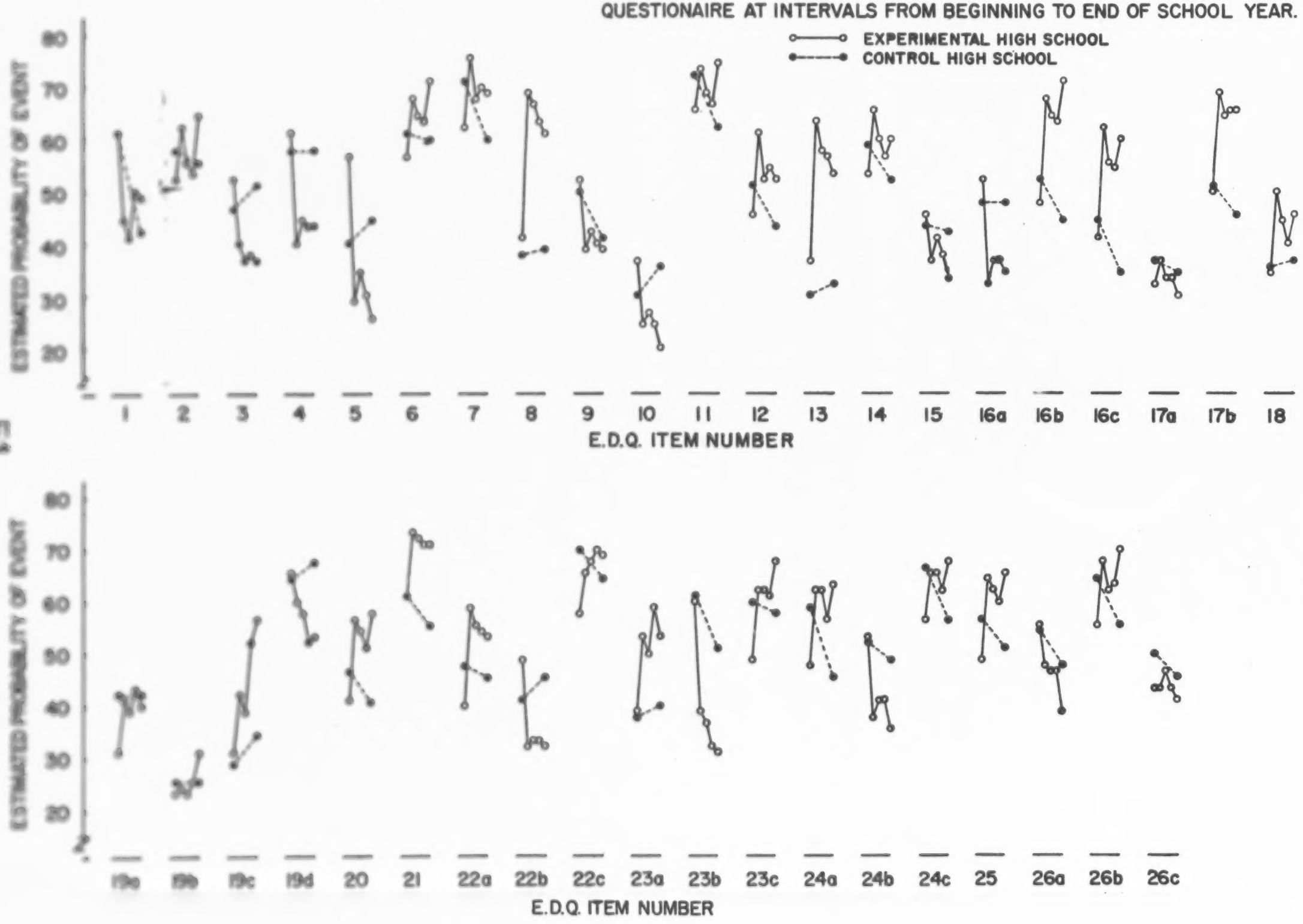


FIGURE 2. STUDENTS' RESPONSES TO ENVIRONMENTAL DESCRIPTION QUESTIONAIRE AT INTERVALS FROM BEGINNING TO END OF SCHOOL YEAR.



Appendix

Verbatim report to student-leaders dated October 23, 1968

Dear Steering Committee and Room Representatives:

I would like to review with you my perception of what we did on October 3, why we did it, and what we think you can do to improve your effectiveness as a group designated to complete an important task.

We began with a problem-census. That is, we sought to find out from you the issues on which the group was hung up. When we summarized your individual reports, two problems emerged as most important: (1) the task of actually writing a constitution, and (2) the difficulties the group was having in working together on the task. For purposes of clarity, let us call the first the content problem, and the second the process problem.

After the problem-census we took a quick oral survey of the specific process-problems that you thought you had observed. Among the important problems were the following: (1) competitiveness and defensiveness between the Steering-Committee as one group, and the room-representatives as the other group; (2) a variety of communications-problems, including non-listening and passive listening; (3) polarization into sub-groups which advocate particular solutions rather than sharing in joint inquiry as to possible solutions; (4) fear of loss of power, especially to members of the teaching staff who might try to influence you.

The consultation-staff met in a fishbowl-arrangement to decide which of these process-problems to work on first and what to recommend to you in the way of procedures. We decided that (1) you are too large to work effectively as a Committee of the Whole; (2) participation is very unequal with some members tending to monopolize discussion and others remaining silent; (3) you needed some practice in some basic communication-skills, especially paraphrasing.

You spent the afternoon in three sub-groups coming together as a total group from time to time to share your deliberations and to chart your course for the subseqeunt sub-group meetings. At the end of the day, the consultation-staff made the following recommendations regarding your work in the future:

(1) That you meet in a different room, preferably one large enough to allow you to break into sub-groups without interfering excessively with one another. The chairs, ideally, should allow you much flexibility of movement.

(2) That you assign some members of your Committee to be process-specialists, i.e., to observe how the Committee and sub-groups are functioning, and to feed back their impressions to the larger group. It is essential that these persons not get caught up in the substantive issues, but concentrate on interpersonal process.

(3) That you learn and practice ways of "critique-ing" your own performance. Here we suggested that you might set an alarm clock to go off at 20 minute intervals to signal a period of from five to ten minutes to share perceptions of how you are working together, what you could be doing different that would faciliate your effectiveness.

(4) That you designate someone to be a communications-link with the consultation-staff, who could request materials or other help from us.

(5) That you read the enclosed articles on the Decision-Making Grid in order to become more aware of the common problems of decision-making groups.